Improved Production Cars Regulations (Version 5.2 – Updated Aug 2023)

1. Key Points to Note

1.1. INTRODUCTION:

Improved Production Cars Race Series (IPC) is a sporting-level touring car category, within the Historic Racing Club (HRC).

1.2. SERIES ADMINISTRATION:

Administration of the Series is at the sole discretion of HRC or any individual or group of individuals as nominated by HRC from time to time.

1.3. COMPLIANCE WITH MSNZ REGULATIONS:

The following technical regulations for Improved Production Cars are issued by HRC and must be read in conjunction with the relevant Schedules of "General Requirements for Cars and Drivers" in the MSNZ Manual.

1.4. PUBLICATION DATE FOR AMENDMENTS:

Each year in September at the latest, HRC will publish all changes made to these regulations. Changes made for safety may come into force without notice.

1.5. PERMANENT COMPLIANCE WITH REGULATIONS:

Vehicles must comply with these regulations in their entirety at all times during an event, save through any damage or malfunction sustained in competition.

1.6. LOG BOOK/ELIGIBILITY:

The Competitor is responsible for furnishing any documentation to prove the eligibility of any part used or modification performed otherwise outside of these regulations.

1.7. DATA & COMMUNICATION:

All competitors are required to run at least one forward-facing video camera during racing. It is a condition of entry that any video footage be made available to HRC in the event of an on-track incident.

The use of telemetry is permitted and recommended in order to help competitors manage their lap-times and strategise their race. Driver radio communication is permitted.

1.8. COMPETITOR ELIGIBILITY:

Competitors are required to have a minimum C Grade race license, and at least 12 months' circuit racing experience (includes karts, single seaters, production cars, formula cars etc)

2. Technical

2.1. VEHICLE ELIGIBILITY:

2.1.1. WHAT IS CONSIDERED AN IMPROVED PRODUCTION CAR?

IPC accepts vehicles that were manufactured

- on a production line or other volume-assembly facility and
- by a recognised vehicle manufacturer and
- in any country or region so long as the vehicle was available for sale to the general public

HRC will be the final arbiter of acceptance or otherwise of any model.

2.1.2. WHAT IS NOT CONSIDERED AN IMPROVED PRODUCTION CAR?

- Home-built cars
- Space-frame cars
- Utes, vans, SUV's, etc

2.2. VEHICLE MODIFICATIONS:

2.2.1. PROHIBITED MODIFICATIONS AT A GLANCE:

1. Relocation of any original suspension pick-up points
2. Re-orientation of the engine within the engine bay
3. Repositioning of the engine within the vehicle
4. Removal or major modification to the engine compartment firewall (or bulkhead)
5. Removal or major modification to the inner wheel tubs and/or strut towers
6. Removal or major modification to the floorpan or chassis rails
7. Changing the drivetrain layout (eg from FWD to RWD) Note AWD cars may be modified to 2WD
8. OE style glass windscreen must be retained
9. Mounting points of the front & rear subframes (or K-Frames) must remain unchanged

Basically, if your car meets regulation 2.2.1 and 2.3.1 than you should be good to race with us. For more detail, see Appendix B.

2.2.2. COMBUSTION:

1. Any type of fuel including Ethanol or Race Fuel may be used in the IPC Series. Refer Schedule A
2. Other non-pressurised systems including water injection are permitted.
3. Nitrous or any other pressurised induction/combustion aids are not permitted.

2.2.3. TYRES:

1. Competitors may use any tyre that is suitable for competition use. (DOT rated / Slicks and full race wets)
2. Must have at least a minimum tread depth. The tread wear indicators provided by the tyre manufacturer will be the definitive method of determining minimum tread depth. At no time prior to practice or racing may any tread wear indicator be exposed or in the case where the indicator is a dimple in the tyre, worn below such indicator. This does not apply to the shoulder of the tyre. In all areas where there is no tread wear indicator, the original tread pattern must be clearly visible.
3. Tyres must be fitted onto a rim in compliance with Schedule A

2.2.4. MINIMUM SAFETY REQUIREMENTS:

1. All vehicles racing in IPC must have a minimum 4 point safety cage structure in compliance with Schedule A (refer "General Requirements for Cars and Drivers").
2. The original driver's seat must be replaced by a suitable racing seat, complying with Schedule A (refer "General Requirements for Cars and Drivers")
3. The original driver's seat belt must be replaced by a safety harness, complying with Schedule A (refer "General Requirements for Cars and Drivers"), with at least five belts in contact with the driver.

3. Race Format and Scoring

The series is designed to promote close racing and provide an environment where competitors can strive to improve. The following Race Format is designed with a view to simplicity, safety and practicality of managing the event.

3.1.1. QUALIFYING:

The Round will begin with qualifying to determine the grid for Race 1.

3.1.2. RACE 1:

Competitors will be placed into “Groups” based on their best lap-time in the qualifying session.

Each Group will be based on lap-times covering a 3.5 second span at the Hampton Downs and Taupo National Circuits, or a 5 second span at the Hampton Downs and Taupo International Circuits.

For clarity, this means that the maximum difference in lap-times across all cars in a given Group will be as close to the applicable 3.5 or 5 second span as is practical on the day.

A coloured sticker or other means of identification will be applied to each car denoting its Group prior to the start of the race.

Any competitor whose fastest lap during qualifying is in the top 1 second of a 3.5 second span Group, or the top 1.5 seconds of a 5 second span Group will be required to complete a pit-lane drive-through (PLDT) during Race 1.

Cars will line up on the grid in their Groups, with the fastest Group at the front, in order of fastest lap set during qualifying, followed by successively slower Groups.

Where practicable, one blank row will be left between Groups.

All Groups will commence the race simultaneously and race for 20 minutes.

3.1.3. RACE 2:

The grid format for Race 2 is exactly the same as for Race 1, noting that Groups will be set based on fastest laps from Race 1, and may therefore change depending on which competitors improve during the day.

Any competitor whose fastest lap during Race 1 is in the top 1 second of a 3.5 second span Group, or the top 1.5 seconds of a 5 second span Group will be required to complete a pit-lane drive-through (PLDT) during Race 2.

For Race 2, competitors will line up on the grid, once again in their respective Groups. A coloured sticker will be applied to each car denoting its Group prior to the start of the race.

As with Race 1, one blank row will be left between Groups if possible.

All competitors will start the race simultaneously and race for 20 minutes.

3.1.4. RACE 3:

The Groups for Race 3 are determined in exactly the same way as the earlier races, using the fastest times set during Race 2. However for Race 3, the starting order within each Group is REVERSED, such that the cars with the slower laptimes are at the front of each Group. Once again, groupings may change depending on which competitors improve during the day.

Any competitor whose fastest lap during Race 1 is in the top 1 second of a 3.5 second span Group, or the top 1.5 seconds of a 5 second span Group will be required to complete a pit-lane drive-through (PLDT) during Race 3.

For Race 3, competitors will line up on the grid, once again in their respective Groups. A coloured sticker will be applied to each car denoting its Group prior to the start of the race.

As with Race 2, one blank row will be left between Groups if possible.

All competitors will start the race simultaneously and race for 20 minutes.

3.1.5. PITLANE DRIVE-THROUGH (PLDT)

a) Drivers required to complete a PLDT may do so at any point in the race prior to the Last Lap board being shown.

b) PLDT's may be taken during a safety car intervention, so long as the pit entry and exit lanes are clear and the manoeuvre can be executed safely.

c) In the event of a race being red flagged and not restarted, the threshold for completing a PLDT will be 6 full laps under racing (or green) conditions. For clarity:

i. If 6 green laps have been completed, the requirement to complete a PLDT remains, and if not taken (even under safety car control) the competitor will have 30 seconds added to their total race time.

ii. If 6 green laps have NOT been completed, the requirement to complete a PLDT is nullified. Any competitor having completed their PLDT will have 30 seconds deducted from their total race time.

d) In the event of a non-interrupted race, failure to complete the PLDT will attract a 40 second time penalty added to the competitor's total race time.

3.1.6. POINTS ACCRUAL:

a) Points will be accrued against each driver.
b) Only one car may be entered per driver at any given round of the series.
c) A competitor must be classified as a Finisher in order to receive championship points. A Finisher will have completed no fewer than 75% of the laps completed by the class winner and will have crossed the finish line under its own motive power.

3.1.7. POINTS ALLOCATION:

Points are awarded for the positions taken in each racing Group.

Placing	Points
1st	30
2nd	24
3rd	19
4th	15
5th and up	10
DNS, DNF	5

3.1.8. DROP ROUND:

All competitors will have the points from their ONE lowest-scoring round deducted from their championship total, even in the case of a round where no points are scored or a round which is not attended.

3.1.9. TEAMS:

In addition to the individual competitors' championship, there is also now a Teams Championship.

To enter the Teams Championship, form a team of THREE individual competitors. All points scored by individual team members will be combined to form the team total for the round. There will be one "Drop Round" in the Teams Championship where the TEAM's lowest-scoring round will be deducted from the total.

It is permitted to substitute ONE competitor per round if one the three original members are unable to attend at any round.

3.1.10. ENDURANCE RACES:

From time to time, the organisers may elect to run an endurance race as part of the series. Any such races may form part of the championship at the discretion of the organisers. If an endurance race is included in the championship, an appropriate points scoring system will be decided by the organisers and published in advance of the meeting.

3.1.11. PENALTIES:

Aside from specific penalties described elsewhere in this document, any competitor may be docked an appropriate number of championship points for breaches of the IPC regulations. HRC will be the arbiter of

whether or not a breach has occurred, and the penalty applicable to any breach deemed severe enough to warrant it.

3.1.12. CHAMPIONSHIP COMPLETION

A minimum of 5 rounds must have been run before the season will be deemed complete and championship placings may be awarded.

3.1.13. CHAMPIONSHIP ABANDONMENT

The organisers retain the right to abandon the championship for any reason deemed severe enough. Examples may include force majeur, public health crisis or lack of competitor numbers. Provision 3.1.10 would apply in any such case.

APPENDIX A: Important Definitions

3.1.1. SCHEDULE A:

The section of the MSNZ Manual with which all vehicles in races and other speed events must comply. (See General Requirements: Vehicles and Drivers) All Vehicles shall conform with the General Requirements of Automobiles as laid down in “General Requirements for Cars and Drivers” in the MSNZ Manual of Motor Sport and these regulations.

3.1.2. FREE:

A component or system, deemed to be Free under these regulations may be modified, replaced or removed as deemed appropriate by the competitor, so long as the vehicle remains complaint with Schedule A (as above).

APPENDIX B: Series Sponsorship

The Series is fortunate to have the support of these fantastic local companies who understand who we are and what we do. As a series, we therefore encourage competitors to support our sponsors wherever possible.

Value Tyres Limited – Importer of Hankook Tyres.

Tyres can be purchased online at https://motorsportsnz.com/

and our discount code HRCEVENTS. For any queries, your first point of contact is the customer care centre on 0800 825 838. Tyres will be dispatched to your nominated tyre shop for fitting (fitting costs not included).

SAS Autoparts Limited – Supplier of parts, tools and equipment.

Your first point of contact is your local SAS Branch. Quote the Improved Production Cars Race Series account for special pricing. For special assistance contact Codie Banks at codieb@sasgroup.co.nz or 021 023 65666.

Driveline Fleet – Vehicle financing and leasing specialists.

Your first point of contact is Alan Greig at alan@driveline.co.nz or 021 190 8881.

APPENDIX C: Detailed info regarding permissible modifications

INTERIOR

1. Interior bodywork reshaping to enable fitment of replacement gearboxes and clutch assemblies. At all times, there must be some form of covering around the gearshift to prevent the ingress of material into the cockpit.
2. Relocation/remounting of the driver's seat. It is permitted to modify the floorpan in the immediate area of the driver's seat, to permit the fitment of a replacement seat. No part of the modified bodywork may extend any lower than the surrounding original bodywork.
3. The driver's seat may be replaced with one in compliance with Schedule A (refer "General Requirements for Cars and Drivers"). Seat mountings are Free provided they are of a high quality and fitted securely in accordance with Schedule A. All other seats, and associated seat belts are Free.

EXTERIOR

1. Exterior bodywork reshaping to enable fitment of larger wheels
2. Fitment of wheel arch flares that permit normal unimpeded operation of all doors
3. Rear windscreen and side windows may be replaced with polycarbonate or other suitable material
4. Modifications to bodywork to enable fitment of or access to fuel fillers, tanks or inspection plates. (Under no circumstance may the access hole exceed 300mm in any dimension.)
5. Removal or reshaping of bodywork to enable tyre clearance
6. The original bonnet & boot fasteners and release mechanisms may be replaced with a safe alternative.
7. External rear view mirrors may be replaced or altered, provided that Schedule A (refer "General Requirements for Cars and Drivers") is respected at all times. It is imperative the driver has sufficient visibility out of the vehicle.
8. Modest aerodynamic aids are permitted. Any Aero Device fitted:
    - May not be used for any additional or alternative functions (eg, for mounting an oil radiator);
    - Must be rigidly secured to the entirely sprung part of the car and remain immobile in relation to the sprung part of the car (rigidly secured means not having any degree of Freedom);
    - Must be Free of any sharp or jagged edges

ENGINE

1. The engine may be upgraded or replaced by another series production engine of any type, so long as it fits within the original engine bay and drive layout is unchanged. HRC will be the final arbiter in determining the eligibility of an engine block.
2. All vehicles are permitted to run a turbo or supercharger under the following conditions:
    - Forced induction componentry from any manufacturer may be used provided it is fitted safely and securely
    - No component of the induction system may protrude outside of the bodywork
    - For vehicles with a top-mount intercooler, a hole may be cut into the bonnet to permit airflow provided:
        - a properly manufactured bonnet scoop is fitted
        - the bonnet scoop is Free of any sharp edges
        - the hole is of the minimum dimensions necessary to fit the scoop
    - For vehicles with a front-mount intercooler, the front bumper may be modified for clearance provided:
        - the bumper is secure and Free of any sharp edges
        - the intercooler does not protrude past the front projection of the original bumper
3. Engine management systems are Free. Tuning may be applied to the factory ECU or an aftermarket ECU may be fitted and tuned if desired. The location of the ECU and any associated looms and connectors are Free.
4. The radiator and all associated cowls or shrouds are Free.
5. Engine cooling fans and oil coolers are Free but must not be mounted in the cockpit
6. The complete exhaust system is Free
7. The complete induction system is Free
8. A starter must be fitted and be able to be controlled by the driver when seated normally. The starting system must be capable of starting the engine at all times.

ENGINE MOUNTING

1. The engine mounting points on the bodyshell may be removed, modified or added to facilitate engine fitment. The vehicle must retain its original inner wheel houses. Minor reshaping of panels including the bonnet, radiator support panel and original bulkhead are permitted for clearance of the engine, ancillaries and exhaust. Engine mounts are Free.
2. The front cross member or K-Frame may be modified or replaced with a suitable alternative using the same mounting locations.

TRANSMISSION

1. Transmissions, clutches and associated linkages/systems are Free.
2. The differential, tailshaft / driveshafts / axles and associated universal or CV-joints are Free.
3. Oil coolers are Free but must not be mounted in the cockpit

SUSPENSION/STEERING/WHEELS

1. The entire suspension system is Free, so long as the original pick-up points (or body mounting points) are used.
2. All fully sprung parts of the car, with the exception of the entire exhaust system, must be at least 85mm above the ground when measured on a flat level surface with the vehicle at Racing Weight.
3. A strut brace of Free design may be fitted between the towers and/or triangulated rearwards.
4. The wheel track dimension is Free save that the upper part of the tyre, down to the flange over the wheel hub centre must be within the perimeter of the vehicle when viewed vertically from above (see diagram 1).
5. The entire steering system, including the adding or removal of power steering is Free so long as there remains a mechanical linkage between the steering wheel and the roadwheels. The vehicle must remain compliant with Schedule A.

FUEL SYSTEMS:

1. The fuel tank may be replaced by one of Free but safe design; an FIA-approved bladder tank is recommended. Where the standard fuel tank is retained or the replacement is not an FIA-approved Safety tank, it must be fitted with anti-spray foam in conformity with Schedule A (refer “General Requirements for Cars and Drivers”).
2. It must be mounted in the same general location in relation to the floor pan and nearest axle centreline or it may be mounted in the boot area. Where a tank is relocated to the boot area the replacement rank must be an FIA-approved bladder tank.
3. For vehicles which are manufactured with the fuel tank in the cockpit, or where the tank is mounted in the boot, a flame- and liquid-proof bulkhead must be fitted between the tank and driver.
4. The position of the tank filler is Free, subject to Regulation 2.4.1. Dry break fittings are permitted. Tank fillers must not protrude beyond the bodywork and must be installed in such a way that no fuel spilt in the filling process will leak into the interior compartments of the car. If the filler hole is situated inside the car, it must be separated from the cockpit by a liquid tight bulkhead. Where retained, the standard filler orifice may be modified to accept a replacement cap of Free design. Tank fillers must be designed to ensure an efficient closing action which reduces the risk of accidental opening following a crash impact.
5. Fuel pumps, fittings, fuel lines and filters are Free. Where the fuel lines pass through the cockpit, there must be no connections within the cockpit save at the front and rear bulkheads.

BRAKES:

1. The entire brake system is Free, with the exception that all hydraulic systems must be controlled by a double circuit system so arranged that the pedal normally operates on the four road wheels. In the event of fluid leakage at any point in the system, the pedal shall still control two wheels on the same axle, or on diagonally opposite wheels.
2. Brake bias adjustment and/or proportioning valves are Free
3. Brake cooling systems are Free. It is permitted to fit ducting for the passage of air to the brakes provided that it remains within the perimeter of the coachwork when viewed from above
4. ABS may be added or removed

WHEELS:

1. Wheels must be of a type originally found on a standard production vehicle.
2. Centre-lock wheels are not permitted unless originally supplied on the actual vehicle. Centre-lock wheels may not be retro-fitted, even where they were an option on a model from the same family.
3. Wheel sizes are Free, taking note of the regulations described in 2.8.11 above regarding protrusion outside of the body work.

ELECTRICAL SYSTEM:

1. The wiring and electrical connectors, switches, fuses and circuit breakers, starting, ignition and generating systems are Free but must be in working order at the start of each competition.
2. The battery and its location are Free but it must be safely and securely mounted in accordance with Schedule A. It must be adequately covered so as to prevent short circuits and leakage, in any position.
3. The windscreen wiper and washer mechanism is Free so long as it is safe and functions adequately.
4. External lighting is Free so long as it is in compliance with Schedule A and resembles the original car as closely as possible.
5. All instrumentation is Free.
6. The entire heating & ventilation system is Free, noting that a suitable method of demisting the windscreen is of vital importance